

What is claimed is:

1. A valve disposed between a fluid supply and a socket of a chuck, the valve being configured to regulate the flow of the fluid to the socket, the valve comprising:
 - a seal screw for modulating a preload tension, the seal screw having a first sealing surface;
 - a second sealing surface in opposing relation to the first sealing surface; and
 - an elastomer seal ring disposed between the first sealing surface and the second sealing surface, wherein the valve is configured to form a seal between the first sealing surface, the second sealing surface, and the elastomer seal in response to a force less than or equal to the preload tension being exerted in line with the seal screw, the valve being further configured to allow the flow of the fluid between the first sealing surface and the second sealing surface in response to a force exceeding the preload tension being exerted in line with the seal screw.
2. The valve according to claim 1, wherein the seal screw is further configured to modulate a travel distance between the first sealing surface and the second sealing surface.
3. The valve according to claim 1, further comprising a set screw configured to substantially prevent adjustment of the seal screw when tightened and allow adjustment of the seal screw when loose.
4. The valve according to claim 3, wherein the set screw is further configured to substantially prevent disassembly of the chuck when tightened and allow disassembly of the chuck when loose.
5. The valve according to claim 1, further comprising a spring configured to generate the preload tension.

6. The valve according to claim 5, further comprising a spring guide configured to control non-axial movement of the spring.

7. The valve according to claim 6, wherein the spring includes a plurality of Belleville washers.

8. The valve according to claim 7, wherein an inside diameter of the spring guide is substantially equal to the outside diameter of the spring.

9. The valve according to claim 8, wherein the spring guide is configured to accommodate a variable number of Belleville washers.

10. The valve according to claim 9, wherein the spring guide is configured to accommodate a plurality of Belleville washer configurations.

11. An apparatus for automatically regulating flow of a coolant to a socket of a chuck, the apparatus comprising:

means for adjusting a preload tension of a valve within the chuck;

means for forming a seal in response to the preload tension, wherein the seal is formed by an elastomer seal disposed between a first sealing surface and a second sealing surface; and

means for opening the seal in response to a force greater than the preload tension being applied to the chuck, wherein the force is applied in a direction in line with an axis of the chuck.

12. The apparatus according to claim 11, further comprising a means for locking the adjusted preload tension.

13. The apparatus according to claim 11, further comprising a means for connecting a supply of the coolant to the chuck.
14. The apparatus according to claim 11, further comprising a means for adjusting a travel distance between the first sealing surface and the second sealing surface.
15. The apparatus according to claim 14, further comprising a means for locking the adjusted travel distance.
16. A method of automatically regulating flow of a coolant to a socket of a chuck, the method comprising:
 - adjusting a preload tension of a valve within the chuck;
 - forming a seal in response to the preload tension, wherein the seal is formed by an elastomer seal disposed between first sealing surface and a second sealing surface; and
 - opening the seal in response to a force greater than the preload tension being applied to the chuck, wherein the force is applied in a direction in line with an axis of the chuck.
17. The method according to claim 16, further comprising locking the adjusted preload tension.
18. The method according to claim 16, further comprising connecting a supply of the coolant to the chuck.
19. The method according to claim 16, further comprising adjusting a travel distance between the first sealing surface and the second sealing surface.
20. The method according to claim 19, further comprising locking the adjusted travel distance.